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TORREYA

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TWO HITHERTO CONFUSED SPECIES OF
LUDWIGIA

BY ROLAND M. HARPER

In August, 1902, I collected on Cumberland Island, Georgia, specimens of a *Ludwigia* which appeared quite different from anything I had met with previously. From the available descriptions it seemed to fit readily enough into *L. virgata* Mx., but it differed in several characters, not mentioned in the descriptions, from the plant of the pine-barrens which I had been accustomed to call *L. virgata*. Later in the same season, and again in 1903, I met with the same unfamiliar plant quite frequently in the lower parts of the coastal plain, where it was often accompanied by the plant which I had previously taken for *L. virgata*.

Subsequent investigations in library and herbarium have convinced me that my Cumberland Island plant represents an undescribed species. Michaux's description of *Ludwigia virgata*, though longer than his average descriptions, leaves a good deal to be desired, as it fails to mention some characters (particularly the reflexed calyx-lobes) now regarded as essential for this species, but all the evidence obtainable from the works of Michaux and his contemporaries tends to confirm my original interpretation of his *L. virgata*.

The other species turns out to have been often collected, being perhaps the commoner of the two, but it does not seem to have ever received a valid name, having always been confounded with Michaux's plant; so I venture to describe it below as new.

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In so doing I run a slight risk of creating a synonym, but this risk will doubtless be more than offset by the advantage of having these two distinct species brought out of the confusion in which they have been involved.

Omitting characters common to the whole genus *Ludwigia* and to the group with conspicuous petals, to which these species belong, they may be distinguished as follows:

LUDWIGIA VIRGATA Mx. Fl. Bor. Am. 1: 89. 1803

Type locality, "in aridis sylvis * Carolinae inferioris. Maio florens."

? *L. alternifolia* Walt. Fl. Car. 89. 1788.

? *L. juncea* Raf. Aut. Bot. 38. 1840. Type-locality, "Alabama."

Plant nearly glabrous throughout: branches few, mostly arising from near the base, fastigate, terete: leaves linear to lanceolate, the upper successively smaller and passing into bracts which usually do not exceed the pedicels: sepals (or calyx-lobes they could just as well be called) 3 or 4 times as long as the ovary, permanently reflexed at anthesis: style twice as long as the stamens and a little longer than the sepals, slender at base, dilated above: stigma depressed, 3 or 4 times as broad as the style: capsule very slightly winged on the angles.†

Range and habitat: Normally in rather dry pine-barrens, North Carolina to Florida and Alabama (?), in the coastal plain.

The following specimens in the collections at the New York Botanical Garden are referable to this species:

NORTH CAROLINA: Savannahs near Wilmington, July 2, 1897, collector anonymous (Biltmore Herbarium, no. 4168).

SOUTH CAROLINA: 9 miles west of Charleston, Aug. 19, 1859, *L. R. Gibbes*.

GEORGIA: Sand-hills of the Altamaha, *Dr. Jones*. About Darien Junction, McIntosh Co., June, 1895, *Small*. Moist pine-barrens near Collins, Tattnall Co., July 4, 1901, *Harper* (no. 999).

* Probably meaning dry pine-barrens.

† This description is drawn principally from field-notes made in Chatham County, Georgia, June 13, 1903. The other species, which happened to be growing in the immediate vicinity, was carefully compared with it at the same time, and the differences noted on the spot.

FLORIDA: "In campis graminosis prope St. Mark's," July, 1843, *Rugel*. "Low pine-barrens, sometimes in rather dry places, July and August," *Chapman* (Biltmore Herbarium, no. 4168c).

***Ludwigia maritima* sp. nov.**

"*L. virgata* Mx." Ell. Bot. S.C. & Ga. 1: 216. 1817.

Plant cinereous-puberulent, 3–6 dm. tall: branches mostly on the upper half of the plant, less distinctly virgate, slightly angled by the decurrent margins of the leaves: leaves lanceolate to oblong, sessile, the upper ones more conspicuous than in *L. virgata*: bracts usually equaling or exceeding the flowers: sepals about twice as long as the ovary, reflexed at anthesis, soon afterward ascending, finally deciduous: style shorter than the sepals and about the same length as the stamens, cylindrical: stigma hemispherical, twice as broad as the style: capsule distinctly winged on the angles.

In rather dry pine-barrens or meadow-like areas, South Carolina (?), Georgia and Florida to Mississippi, mostly near the coast.

Specimens examined:

GEORGIA: Meadow between dunes and beach, east of the hotel, Cumberland Island, Camden Co., Aug. 19, 1902, *Harper* (no. 1542) (type).

FLORIDA: Locality not specified, *Chapman* (no. 44); *Simpson*, 1889 (no. 4906). Low fields and roadsides, Duval Co., June, *A. H. Curtiss* (no. 918). Pablo, Duval Co., June 12, 1896, *L. H. Lighthipe* (no. 271). Low pine land near Eustis, May, 1894, *G. V. Nash* (no. 750). Flatwoods, Myers, July or August, 1900, *A. S. Hitchcock* (no. 120). Braidentown, June 29, 1900, *S. M. Tracy* (no. 7087). Tampa, Aug. 25, 1903, *Britton & Wilson* (no. 22). "In pinelands, Ft. Lauderdale," Nov. 19 or 25, 1903, *Small & Carter* (no. 1014).

ALABAMA: Locality not specified, *Gates*.

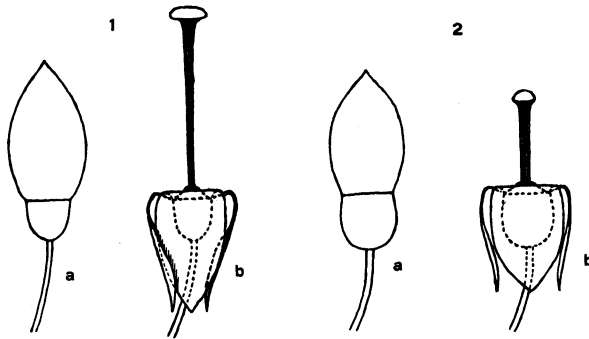
MISSISSIPPI: Point St. Martin, June 20, 1898, *S. M. Tracy* (no. 5067). Biloxi, Sept. 10, 1900, *Lloyd & Tracy* (no. 219).

Of Elliott's description above cited, which I have little doubt applies to this plant, Torrey and Gray say: * "The description of Elliott's *L. virgata* appears to be taken in part from *L. hirtella*,"

* Fl. N. A. 1: 523. 1840.

which was a pretty good guess under the circumstances. Elliott says of its habitat and time of flowering: "Grows in close soils. Very common. Less of an aquatic plant than any other species. Flowers May–September."

These two plants seem to show no tendency to intergrade, and when in flower can be distinguished without a moment's hesitation. The accompanying figures (drawn from memory of living



1. *Ludwigia virgata*. 2. *Ludwigia maritima*. a. Flower-bud just before anthesis. b. Flower just after anthesis. All twice natural size.

plants and checked up by comparison with dried specimens) show the principal diagnostic characters.

Both species have a marked tendency, more so than most pine-barren plants (in Georgia at least), to become weeds, particularly along railroad embankments and ditches.

L. maritima I have not seen more than 50 miles from the coast (except once in the vicinity of Valdosta), while *L. virgata* extends inland in Georgia to Sumter County, if not farther. And if the specimens cited fairly represent the ranges of these plants, *L. virgata* ranges farther east, and *L. maritima* farther west, with their ranges overlapping in Georgia and Florida.

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